CLAIMS:

1. A system comprising:

a housing configured to receive a removable component;

an assembly coupled with the housing, the assembly including a pin; and

a rotatable drive shaft coupled with the removable component to engage the assembly, wherein the drive shaft includes a first helical groove to receive the pin and guide the pin along the shaft.

2. The system of claim 1 further including a handle coupled with the removable component, wherein rotation of the handle drives the shaft relative to the pin to move the removable component relative to the housing.

3. The system of claim 1, wherein the drive shaft further comprises a first helical groove entry having a width greater than a width of the first helical groove, wherein at least a portion of the first helical groove entry is defined by a first inclined entry guide.

4. The system of claim 3, wherein the first inclined entry guide includes a first groove point disposed at a first end of the first inclined entry guide.

5. The system of claim 3, further comprising a transition portion disposed between the first inclined entry guide and the first helical groove.

6. The system of claim 1, further comprising:

a second helical groove; and

a second helical groove entry including a second groove point, wherein at least a portion of the second helical groove entry is defined by a second inclined entry guide.

7. The system of claim 1, further comprising a first detent forming a terminus of the first helical groove and configured to receive the pin.

8. The system of claim 7, further comprising a compression spring arranged so that as the pin travels along a portion of the first helical groove the compression spring is compressed and causes the pin to enter the first detent.

9. The system of claim 1, wherein the removable component is a printed circuit board and the printed circuit board is fully inserted and extracted through rotation of the drive shaft.

10. The system of claim 1, further comprising a locking device configured to prevent rotation of the handle relative to the removable device when the locking device is engaged.

11. The system of claim 10, wherein the locking device further comprises:

a threaded member disposed within the handle; and

a threaded connector disposed within a housing coupled with the removable component.

12. A device for inserting and extracting a removable component comprising:

a drive shaft having a proximal end and a distal end with a first helical groove disposed along the distal end, wherein the first helical groove includes a first enlarged entry;

a handle coupled to the proximal end of the drive shaft; and

a receptacle assembly having a first throughbore and a pin disposed within the throughbore, wherein the throughbore receives the distal end of the drive shaft and the drive shaft aligns the pin with the first helical groove so that rotation of the handle causes rotation of the drive shaft which causes the pin to travel along the first helical groove, wherein rotation of the drive shaft in a first direction causes the proximal end to move towards the receptacle assembly and rotation in a second direction causes the proximal end to move away from the receptacle assembly.

13. The device of claim 12, further comprising a housing having a throughbore, wherein the proximal end of the drive shaft passes through the throughbore to couple with the handle.

14. The device of claim 13, wherein the housing is coupleable to a first object and the receptacle assembly is coupleable to a second object so that when the pin is engaged with the helical groove rotation of the drive shaft in the first direction causes the first object to move towards the second object and rotation of the drive shaft in the second direction causes the first object to move away the second object.

15. The device of claim 14, wherein the first object is a printed circuit board .

16. The device of claim 13, further comprising:

a spring surrounding a portion of the drive shaft within the housing; and

a detent located at a terminus of the first helical groove to receive the pin, wherein rotation of the drive shaft in the first direction compresses the spring and guides the pin to enter the detent.

17. The device of claim 12, wherein the first enlarged entry includes a first inclined entry guide.

18. The device of claim 17, wherein the first enlarged entry includes a second inclined entry guide, and further wherein the first inclined entry guide and the second inclined entry guide taper toward one another.

19. The device of claim 18, wherein the first inclined entry guide and the second inclined entry guide are formed from a first groove point and a second groove point.

20. The device of claim 18, further comprising a second helical groove having a second enlarged entry.

21. The device of claim 20, wherein the second enlarged entry includes a third inclined entry guide.

22. The device of claim 21, wherein the second enlarged entry includes a fourth inclined entry guide, and further wherein the third inclined entry guide and the fourth inclined entry guide taper toward one another.

23. The device of claim 22, wherein the third inclined entry guide and the fourth inclined entry guide are formed from the first groove point and the second groove point.

24. The device of claim 12, further comprising:

a locking member located within the handle; and

a locking mechanism configured to receive the locking member and prevent rotation of the handle.

25. The device of claim 24, wherein the locking mechanism is a threaded member and the locking mechanism is a threaded connector.

26. A method comprising:

inserting a first tip of a first drive shaft attached to a first number into a first receptacle assembly attached to a second number so that a first helical groove on the first drive shaft aligns with a first pin located within the first receptacle assembly; and

rotating a first handle coupled with the first drive shaft in a first direction to rotate the first drive shaft and thereby move first number toward the second number.

27. The method of claim 26, further comprising rotating the first handle in a second direction to extract the printed circuit board from the system board.

28. The method of claim 26, further comprising securing the first handle relative to the first receptacle assembly to prevent rotation of the handle.

29. The method of claim 26, further comprising:

inserting a second tip of a second drive shaft attached to the first number into a second receptacle assembly attached to the second number so that a second helical groove on the second drive shaft automatically aligns with a second pin located within the second receptacle assembly; and

rotating a second handle coupled with the second drive shaft in a first direction to rotate the second drive shaft and thereby move the first number toward the second number circuit board into the system board.

30. The method of claim 26, wherein a single rotation of the first handle fully seats the first number against the second number.

31. A device for inserting and extracting a first object into a second object comprising:

means for automatically aligning a drive shaft having a helical groove with a fixed receptacle assembly; and

means for moving the first object along a linear path due to rotation of the drive shaft.

32. The device of claim 31, further comprising means for indicating that the drive shaft has fully entered the receptacle assembly.

33. The device of claim 31, further comprising means for securing a handle coupled with the drive shaft relative to the receptacle assembly.